We Claim:

1. A method, comprising administering to an animal having prostate cancer a composition comprising M-DNA and a pharmaceutically acceptable carrier, wherein the amount of the M-DNA administered to the animal has an anti-neoplastic effect on cancer cells in the prostate of the animal having the prostate cancer.

2. A method, comprising administering to an animal having prostate cancer a composition comprising M-DNA preserved and complexed on *M. phlei* cell wall (MCC) and a pharmaceutically acceptable carrier, wherein the amount of the MCC administered to the animal has an anti-neoplastic effect on cancer cells in the prostate of the animal having the prostate cancer.

3. The method of claims 1 and 2, wherein the prostate cancer is hormone-sensitive prostate cancer.

4. The method of claims 1 and 2, wherein the prostate cancer is hormone-insensitive prostate cancer.

5. The method of claims 1 and 2, wherein the anti-neoplastic effect is inhibition of proliferation of the cancer cells in the prostate.

6. The method of claims 1 and 2, wherein the anti-neoplastic effect is induction of apoptosis in the cancer cells in the prostate.

7. The method of claims 1 and 2, wherein the anti-neoplastic effect is induction of cytokine synthesis by cells in the prostate.

8. The method of claim 7, wherein the cytokines are selected from the group consisting of IL-12 and TNF-α.

9. The method of claim 7, wherein the cells in the prostate are selected from the group consisting of immune system cells and prostate cancer cells.

10. The method of claims 1 and 2, wherein the pharmaceutically acceptable carrier is selected from the group consisting of a solid carrier and a liquid carrier.

11. A use of a composition comprising M-DNA and a pharmaceutically acceptable

carrier in the manufacture of a medicament for administration to an animal having prostate cancer in an amount effective to treat the prostate cancer in the animal having the prostate cancer.

12. The use according to claim 11, wherein the prostate cancer is hormone-sensitive.

13. The use according to claim 11, wherein the prostate cancer is hormone-insensitive.

14. The use according to claim 11, wherein the M-DNA inhibits proliferation of cancer cells in the prostate.

15. The use according to claim 11, wherein the M-DNA induces apoptosis in prostate cancer cells in the prostate.

16. The use according to claim 11, wherein the M-DNA induces cytokine synthesis by cells in the prostate.

17. A use of a composition, comprising MCC and a pharmaceutically acceptable carrier, in the manufacture of a medicament for administration to an animal having prostate cancer in an amount effective to treat the prostate cancer in the animal having the prostate cancer.

18. The use according to claim 17, wherein the prostate cancer is hormone-sensitive.

19. The use according to claim 17, wherein the prostate cancer is hormone-insensitive.

20. The use according to claim 17, wherein the MCC inhibits proliferation of cancer cells in the prostate.

21. The use according to claim 17, wherein the MCC induces apoptosis in cancer cells in the prostate.

22. The use according to claim 17, wherein the MCC induces cytokine synthesis by cells in the prostate.

23. The use according to claims 16 and 22, wherein the cytokines are selected from the group consisting of IL-12 and TNF-α.

24. The use according to claims 16 and 22, wherein the cells in the prostate are selected from the group consisting of immune system cells and prostate cancer cells.

25. The use according to claims 11 and 17, wherein the pharmaceutically acceptable carrier is selected from the group comprising a solid carrier and a liquid carrier.

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